REMARKS

Claims 1-32 are pending in the present application. All are patentable for, at least, the reasons set forth herein.

REJECTIONS UNDER 35 U.S.C. 112

Claims 1-10 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claim 1 has been amended to remove the proviso thereby rendering the rejection moot.

Claims 4 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4 and 15 have been amended to specifically recite the subject matter applicants regard as the invention.

REJECTIONS UNDER 35 U.S.C. 102

Claims 1-6 and 12-17 are rejected under 35 U.S.C. § 102(e) as being anticipated by Kato (US 6,098,545).

Claims 1 and 12 are independent claims. Both claims 1 and 12 have been amdended to recite a single functional amidine group in the oleophilizing compound.

The rejection is based upon the oleophilizing compound of claims 1 and 12 being defined as a polymer disclosed in Kato.

The term "compound" is defined in the "McGraw-Hill Dictionary of Scientific and Technical Terms Fourth Edition, ed. S. P. Parker, McGraw-Hill Book Company, New York (1989) as:

> "a substance whose molecules consist of unlike atoms and whose constituents cannot be separated by physical means."

Therefore the term compound includes polymeric compounds. However, page 8, lines 14 to 17, of the present specification discloses that:

> "The essence of the present invention is the presence in the ink jet fluid of an oleophilizing compound having in its chemical structure a functional amidine group group capable of reacting with the surface of the lithographic receiver."

From this statement it is evident that the oleophilizing compound contains a single functional amidine group, since otherwise the expression "at least one" would have been used.

The species disclosed in Kato, which according to the arguments of the Examiner, contain an amidine group are the resin particles. According to Kato at col. 6, lines 28-39:

> "The nonaqueous dispersed resin particles (hereinafter also referred to as "latex particles"), which are the most important constituent in the oil-based ink of the present invention, are obtained by polymerization granulation in a nonaqueous solvent using at least one monofunctional monomer (A) and at least one monofunctional macromonomer (MA) comprising a repeating unit containing a specific substituent in the presence of a resin for

dispersion stabilization (P) which is soluble in the nonaqueous solvent and a random copolymer containing a polymer component having a double bond group copolymerizable with the monofunctional monomer (A)."

A compound in which one monomer unit of A and one macromonomer unit of MA would not be regarded by one skilled in the art as a random copolymer. Since this resin is a copolymer of one monofunctional monomer (A) and at least one monofunctional macromonomer (MA) and at least one of A and MA contains, according to the Examiner, an amidine group, the copolymer will contain more than one monomer unit containing an amidine group and hence will contain at least two amidine groups. Therefore, independent claims 1 and 12 are not anticipated.

Claims 2-6 are dependent upon and further limit claim 1 and are therefore patentable for, at least, the same reasons as claim 1.

Claims 13-17 are dependent upon and further limit claim 12 and are therefore patentable for, at least, the same reasons as claim 12.

We therefore contend that claims 1-6 and 12-17 are novel under 35 USC § 102(e) over Kato. Applicants respectfully request that the rejection be withdrawn.

REJECTIONS UNDER 35 U.S.C. 103

Claims 1-4, 6-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leenders et al. (US 5,501,150) in view of Boston (US 4,223,087).

The Office states that Leenders teaches a method for the preparation of a lithographic printing plate. The method comprises forming a silver image on a lithographic receiver, followed by oleophilizing the silver image by applying a compound that both oxidizes and fixes the silver image.

As pointed out by the Office, Leenders teaches that the lithographic oxidizer/fixer comprises organic compounds with groups including HS-C=N and S=C-NH. The reference does not teach the amidine group-containing compounds recited in independent claims 1, 11 and 12.

Boston is cited as teaching a method for the preparation of a lithographic printing plate very similar to that of Leenders. The method comprises imagewise exposing a surface to form a silver image on a lithographic receiver followed by oleophilizing the silver image by applying a compound that both oxidizes and fixes the silver.

Leenders et al. disclose in col. 3, lines 11-22 imagewise projection of droplets which act to develop, by reduction, a silver coated substrate. Alternatively, Leenders et al.

imagewise projects droplets of silver halide onto a reducing surface.

Boston et al. describes forming a metallic silver image by imagewise exposing the surface to light followed by development. After development the silver metal is oxidized and reacted with an organic compound.

It would be apparent to one of ordinary skill in the art that the conditions under which silver is oxidized and stabilized are not compatible with those conditions suitable for reduction to form metallic silver. One would not combine these references due to the expected conflict between a stabilized silver complex and the desire to imagewise reduce the same silver complex. These are contradictory and would not be expected to be compatible. It is only in hindsight that such an arrangement could be made and, even then, the incompatability would suggest against such a combination due to the expected failure.

Furthermore, in the process according to Leenders et al. it is required that at least one of the three ingredients has to be on the hydrophilic surface prior to the information-wise projection of droplets, since otherwise there could be no "bringing into working relationship on said hydrophilic surface". However, in the process according to the present

invention the oleophilizing compound reacts directly with the surface of the lithographic receiver.

The combined teachings of Leenders et al. and Boston et al., if they could be combined, would still provide a two step process involving an ink-jet imaging process and a subsequent oleophilizing process, whereas the present invention involves an ink-jet process in which the oleophilizing compound is present in the ink itself. Moreover, neither Leenders et al. nor Boston et al. oleophilize the surface of the hydrophilic layer but instead a deposit of silver on the hydrophilic layer.

The independent claims are patentable for the reasons set forth herein. With regards to the independent claims the specific ranges are patentable based on the same reasoning. Specifically, Leenders et al. and Boston et al. would not be expected to be combined and, if they were, they would not lead to the present invention. Therefore, one of skill in the art could not optimize variables due to the failure in the combination.

For at least the reasons set forth herein claims 1-4, 6-15 and 17-20 are not obviated by the combination of Leenders et al. and Boston et al. Applicants respectfully request withdrawal of the rejection of claims 1-4, 6-15 and 17-20 as being unpatentable under 35 USC §103(a) over Leenders et al. (US 5,501,150) in view of Boston (US 4,223,087).

Claims 1-6, 12, 13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zerillo (US 4,833,486) in view of Breton et al. (US 6,106,599).

Zerillo is cited as teaching a method for the preparation of a lithographic printing plate. Specifically, the process of Zerillo comprises melting a solid ink that is then applied in liquid form by the ink-jet process and solidifies essentially upon contact with the receiver. The Office concedes that Zerillo does not teach that the fluid contains an oleophilizing compound having in its chemical structure an amidine group capable of reacting with the surface of the lithographic plate.

Breton is cited as teaching an acoustic ink-jet printing method and inks for use therein.

Zerillo discloses specifically a printhead connected to the source of hydrophobic ink to dispense the hydrophobic ink onto a lithographic plate by melting the ink and spraying droplets of the melted ink onto the plate in a predetermined pattern, wherein the ink solidifies essentially upon contact with the plate. However, in the ink according to the present invention, the fluid (ink) contains an oleophilizing compound in the form of a homogeneous solution or a stable colloidal dispersion i.e.

is clearly not solid prior to dispensing the droplets of fluid information-wise.

The present inventions of claims 1-6, 12, 13 and 15-17 in which the fluid (ink) contains an oleophilizing compound in the form of a homogeneous solution or a stable colloidal dispersion cannot be adduced, from nor is it hinted at, in the combined teachings of Zerillo and Breton, since Zerillo and Breton disclose phase-change inks.

Zerillo in view of Breton would lead one away from the use of an ink in the form of a homogeneous solution or a stable colloidal dispersion due to the expected disadvantages relative to solid inks.

Claims 1-6, 12, 13 and 15-17 are patentable under 35 USC §103(a) over Zerillo (US 4,833,486) in view of Breton (US 6,106,599) due to, at least, the fact that Zerillo in view of Breton teaches away from the presently claimed invention.

Removal of the rejection of claims 1-6, 12, 13 and 15-17 as being unpatentable under 35 USC §103(a)over Zerillo (US 4,833,486) in view of Breton(US 6,106,599)is respectfully requested.

Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zerillo in view of Breton et al., as

applied to claims 6 and 17 above, and further in view of Arimatsu et al. (US 5,312,654).

Zerillo in view of Breton et al. is cited as teaching all the limitations of these claims, as described above except that the metallic surface of the lithographic receiver is a grained and anodized aluminum.

Arimatsu et al. is cited for teaching that, when manufacturing a lithographic printing plate by an ink jet process similar to that of Zerillo, and when the lithographic reciver is an aluminium plate, that it is preferable to subject the plate to a graining treatment followed by an anodizing treatment.

The Office therefore concludes that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the process of Zerillo in view of Breton et al., so as to grain and anodize the aluminum lithographic support. The Office further concludes that one of ordinary skill in the art would have been motivated to do so by both the teaching of Zerillo that any hydrophilic support may be used (especially Al) and the explicit treatment of Arimatsu et al. that doing so is preferable.

Arimatsu et al. is specific to a photopolymerizable ink composition. The ink is applied to the substrate followed by imagewise photopolymerization. Therefore, for a period of time

the substrate of Arimatsu has a liquid which must be maintained in position prior to photopolymerization. Zerillo and Breton teach a phase change ink which solidifies upon contact with the surface. There is no necessity for maintaining a liquid on the surface as required in Arimatsu. Therefore, there is no motivation to combine the teachings of Arimatsu with those of Zerillo and Breton since the problem solved by Arimatsu does not exist in the technology of Zerillo and Breton. Even if these teachings were combined the phase change inks and photopolymerizable materials would not lead one of skill in the art to the present invention.

Claims 7 and 18 are patentable under 35 USC §103(a) over Zerillo (US 4,833,486) in view of Breton (US 6,106,599) and Arimatsu et al. (US 5,312,654) and notice thereof is respectfully requested.

Claims 8-10, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zerillo et al. in view of Breton et al. as applied to claims 1 and 12 above, in further view of Toyama et al. (US 4,686,138).

Zerillo in view of Breton fails to teach the ink as set forth previously.

Toyama et al. is cited for teaching a receiver that possesses good hydrophilicity and fixes printing inks well.

Toyama et al. fails to provide any teaching which would alter the combined teachings of Zerillo and Breton with regards to the ink.

Zerillo in view of Breton and Toyama fails to teach the claimed invention for, at least, the same reasons as set forth previously.

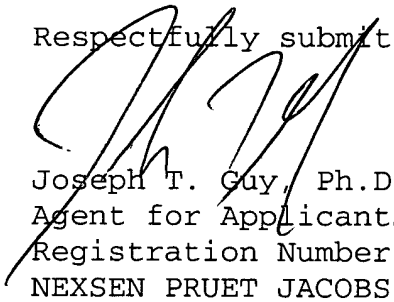
Claims 8-10, 19 and 20 are patentable under 35 USC §103(a) over Zerillo (US 4,833,486) in view of Breton (US 6,106,599) and Toyama et al. (US 4,686,138) and notice thereof is respectfully requested.

NEWLY ENTERED CLAIMS

Claims 21-32 are newly entered claims directed to patentable subject matter. No new matter is added as a result of entering claims 21-32.

Claims 1-32 are pending in the present application. All claims are in condition for allowance and notice thereof is respectfully requested.

Respectfully submitted,



September 4, 2003

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